ABSTRACT

The purpose of this final year project is to design and build a system that will control wirelessly the tank level of heating oil in a residential unit. There are several ways of calculating the level in tanks but as known nowadays modern level control systems replaced the old methods. To build a system that meets the user's needs are studied similar systems that will help to design the new system. After that a presentation of the design system is made including the LV − ultrasonic sensor − MaxSonar − EZ1 MB1010, the data processing system myRIO − 1900, the software LabVIEW and the application Data Dashboard. The complete circuit of the sensor, the data processing system as well as the positioning of the sensor to the tank is also explained. Moreover by designing Virtual Instruments and using suitable programming in LabVIEW software, tank level measurement and control is achieved. Also by using Data Dashboard application the results can be presented on a smart mobile phone or a tablet. Finally the designed system was tested and calibrated by placing it in a real tank. The cost of the system was calculated, instructions for use written and general conclusions were listed along with suggestions.